

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/686,835 B
Source: IFW16
Date Processed by STIC: 10/18/2005

ENTERED



IFW16

RAW SEQUENCE LISTING

DATE: 10/18/2005

PATENT APPLICATION: US/10/686,835B

TIME: 08:55:41

Input Set : A:\sequence listing.txt

Output Set: N:\CRF4\10182005\J686835B.raw

4 <110> APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
 6 <120> TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
 7 HEPATITIS C VIRUS
 9 <130> FILE REFERENCE: 13/083-2-C1
 11 <140> CURRENT APPLICATION NUMBER: 10/686,835B
 12 <141> CURRENT FILING DATE: 2003-10-16
 14 <150> PRIOR APPLICATION NUMBER: 10/029,907
 15 <151> PRIOR FILING DATE: 2001-12-21
 17 <150> PRIOR APPLICATION NUMBER: 60/257,857
 18 <151> PRIOR FILING DATE: 2000-12-22
 20 <160> NUMBER OF SEQ ID NOS: 28
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 8639
 26 <212> TYPE: DNA
 27 <213> ORGANISM: HCV
 29 <220> FEATURE:
 30 <221> NAME/KEY: CDS
 31 <222> LOCATION: (1803)...(8408)
 33 <400> SEQUENCE: 1

34 ggccagcccc cgattggggg cgacactcca ccatagatca ctcccctgtg aggaactact 60
 35 gtcttcacgc agaaagcgtc tagccatggc gttagtatga gtgtcgtgca gcctccagga 120
 36 cccccctcc cgaggagagcc atagtgggtct gcggaaccgg tgagtacacc ggaattgcca 180
 37 ggacgaccgg gtcctttctt ggatcaaccc gctcaatgcc tggagatttg ggcgtgcccc 240
 38 cgcgagactg ctagccgagt agtggttgggt cgcgaaaggc cttgtggtac tgcctgatag 300
 39 ggtgcttgcg agtgccccgg gaggtctcgt agaccgtgca ccatgagcac gaatcctaaa 360
 40 cctcaaagaa aaaccaaagg gcgcgccatg attgaacaag atggattgca cgcaggttct 420
 41 ccggccgctt ggggtggagag gctattcggc tatgactggg cacaacagac aatcggctgc 480
 42 tctgatgccg ccgtgttccg gctgtcagcg caggggcgcc cggttctttt tgtcaagacc 540
 43 gacctgtccg gtgccctgaa tgaactgcag gacgaggcag cgcggctatc gtggctggcc 600
 44 acgacgggcg ttccttgccg agctgtgctc gacgttgctc ctgaagcggg aagggactgg 660
 45 ctgctatttg gcgaagtgcc ggggcaggat ctctgtcat ctcacctgct tcttgccgag 720
 46 aaagtatcca tcatggctga tgcaatgcgg cggctgcata cgcttgatcc ggctacctgc 780
 47 ccattcgacc accaagcgaa acatcgcac gagcgagcac gtactcggat ggaagccggg 840
 48 cttgtcgatc aggatgatct ggacgaagag catcaggggc tcgcgccagc cgaactgttc 900
 49 gccaggctca aggcgcgcac gcccgacggc gaggatctcg tcgtgaccca tggcgatgcc 960
 50 tgcttgccga atatcatggg ggaatggc cgcttttctg gattcatcga ctgtggccgg 1020
 51 ctgggtgtgg cggaccgcta tcaggacata gcgttggtc cccgtgatat tgctgaagag 1080
 52 cttggcgggc aatgggctga ccgcttcctc gtgctttacg gtatcgccgc tcccgattcg 1140
 53 cagcgcacgc ccttctatcg ctttcttgac gagttcttct gagttcgcgc ccagatgtta 1200
 54 acagaccaca acggtttccc tctagcggga tcaattccgc cccccccct aacgttactg 1260
 55 gccgaagccg cttggaataa ggccggtgtg cgtttgtcta tatgttattt tccaccatat 1320
 56 tgccgtcttt tggcaatgtg agggcccgga aacctggccc tgtcttcttg acgagcattc 1380

Cpg-6)

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57 ctaggggtct tccccctctc gccaaaggaa tgcaagggtct gttgaatgtc gtgaagggaag 1440
58 cagttcctct ggaagcttct tgaagacaaa caacgtctgt agcgaccctt tgcaggcagc 1500
59 ggaaccccccc acctggcgac aggtgcctct gcggccaaaa gccacgtgta taagatacac 1560
60 ctgcaaaggc ggcacaaccc cagtgccacg ttgtgagttg gatagttgtg gaaagagtca 1620
61 aatggctctc ctcaagcgta ttcaacaagg ggctgaagga tgcccagaag gtacccatt 1680
62 gtatgggata tgatctgggg cctcggtgca catgctttac atgtgtttag tgcagggttaa 1740
63 aaaacgtcta ggccccccga accacgggga cgtggttttc ctttgaaaaa cacgataata 1800
64 cc atg gac cgg gag atg gca gca tgc tgc gga ggc gcg gtt ttc gta 1847
65 Met Asp Arg Glu Met Ala Ala Ser Cys Gly Gly Ala Val Phe Val
66 1 5 10 15
68 ggt ctg ata ctc ttg acc ttg tca ccg cac tat aag ctg ttc ctc gct 1895
69 Gly Leu Ile Leu Leu Thr Leu Ser Pro His Tyr Lys Leu Phe Leu Ala
70 20 25 30
72 agg ctc ata tgg tgg tta caa tat ttt atc acc agg gcc gag gca cac 1943
73 Arg Leu Ile Trp Trp Leu Gln Tyr Phe Ile Thr Arg Ala Glu Ala His
74 35 40 45
76 ttg caa gtg tgg atc ccc ccc ctc aac gtt cgg ggg ggc cgc gat gcc 1991
77 Leu Gln Val Trp Ile Pro Pro Leu Asn Val Arg Gly Gly Arg Asp Ala
78 50 55 60
80 gtc atc ctc ctc acg tgc gcg atc cac cca gag cta atc ttt acc atc 2039
81 Val Ile Leu Leu Thr Cys Ala Ile His Pro Glu Leu Ile Phe Thr Ile
82 65 70 75
84 acc aaa atc ttg ctc gcc ata ctc ggt cca ctc atg gtg ctc cag gct 2087
85 Thr Lys Ile Leu Leu Ala Ile Leu Gly Pro Leu Met Val Leu Gln Ala
86 80 85 90 95
88 ggt ata acc aaa gtg ccg tac ttc gtg cgc gca cac ggg ctc att cgt 2135
89 Gly Ile Thr Lys Val Pro Tyr Phe Val Arg Ala His Gly Leu Ile Arg
90 100 105 110
92 gca tgc atg ctg gtg cgg aag gtt gct ggg ggt cat tat gtc caa atg 2183
93 Ala Cys Met Leu Val Arg Lys Val Ala Gly Gly His Tyr Val Gln Met
94 115 120 125
96 gct ctc atg aag ttg gcc gca ctg aca ggt acg tac gtt tat gac cat 2231
97 Ala Leu Met Lys Leu Ala Ala Leu Thr Gly Thr Tyr Val Tyr Asp His
98 130 135 140
100 ctc acc cca ctg cgg gac tgg gcc cac gcg ggc cta cga gac ctt gcg 2279
101 Leu Thr Pro Leu Arg Asp Trp Ala His Ala Gly Leu Arg Asp Leu Ala
102 145 150 155
104 gtg gca gtt gag ccc gtc gtc ttc tct gat atg gag acc aag gtt atc 2327
105 Val Ala Val Glu Pro Val Val Phe Ser Asp Met Glu Thr Lys Val Ile
106 160 165 170 175
108 acc tgg ggg gca gac acc gcg gcg tgt ggg gac atc atc ttg ggc ctg 2375
109 Thr Trp Gly Ala Asp Thr Ala Ala Cys Gly Asp Ile Ile Leu Gly Leu
110 180 185 190
112 ccc gtc tcc gcc cgc agg ggg agg gag ata cat ctg gga ccg gca gac 2423
113 Pro Val Ser Ala Arg Arg Gly Arg Glu Ile His Leu Gly Pro Ala Asp
114 195 200 205
116 agc ctt gaa ggg cag ggg tgg cga ctc ctc gcg cct att acg gcc tac 2471
117 Ser Leu Glu Gly Gln Gly Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr
118 210 215 220

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```

120 tcc caa cag acg cga ggc cta ctt ggc tgc atc atc act agc ctc aca 2519
121 Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr
122      225      230      235
124 ggc cgg gac agg aac cag gtc gag ggg gag gtc caa gtg gtc tcc acc 2567
125 Gly Arg Asp Arg Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr
126 240      245      250      255
128 gca aca caa tct ttc ctg gcg acc tgc gtc aat ggc gtg tgt tgg act 2615
129 Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr
130      260      265      270
132 gtc tat cat ggt gcc ggc tca aag acc ctt gcc ggc cca aag ggc cca 2663
133 Val Tyr His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro
134      275      280      285
136 atc acc caa atg tac acc aat gtg gac cag gac ctc gtc ggc tgg caa 2711
137 Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln
138      290      295      300
140 gcg ccc ccc ggg gcg cgt tcc ttg aca cca tgc acc tgc ggc agc tcg 2759
141 Ala Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys Thr Cys Gly Ser Ser
142      305      310      315
144 gac ctt tac ttg gtc acg agg cat gcc gat gtc att ccg gtg cgc cgg 2807
145 Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg
146 320      325      330      335
148 cgg ggc gac agc agg ggg agc cta ctc tcc ccc agg ccc gtc tcc tac 2855
149 Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr
150      340      345      350
152 ttg aag ggc tct tcg ggc ggt cca ctg ctc tgc ccc tcg ggg cac gct 2903
153 Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala
154      355      360      365
156 gtg ggc atc ttt cgg gct gcc gtg tgc acc cga ggg gtt gcg aag gcg 2951
157 Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala
158      370      375      380
160 gtg gac ttt gta ccc gtc gag tct atg gaa acc act atg cgg tcc ccg 2999
161 Val Asp Phe Val Pro Val Glu Ser Met Glu Thr Thr Met Arg Ser Pro
162      385      390      395
164 gtc ttc acg gac aac tcg tcc cct ccg gcc gta ccg cag aca ttc cag 3047
165 Val Phe Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Thr Phe Gln
166 400      405      410      415
168 gtg gcc cat cta cac gcc cct act ggt agc ggc aag agc act aag gtg 3095
169 Val Ala His Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr Lys Val
170      420      425      430
172 ccg gct gcg tat gca gcc caa ggg tat aag gtg ctt gtc ctg aac ccg 3143
173 Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro
174      435      440      445
176 tcc gtc gcc gcc acc cta ggt ttc ggg gcg tat atg tct aag gca cat 3191
177 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His
178      450      455      460
180 ggt atc gac cct aac atc aga acc ggg gta agg acc atc acc acg ggt 3239
181 Gly Ile Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly
182      465      470      475
184 gcc ccc atc acg tac tcc acc tat ggc aag ttt ctt gcc gac ggt ggt 3287

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| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 185 | Ala | Pro | Ile | Thr | Tyr | Ser | Thr | Tyr | Gly | Lys | Phe | Leu | Ala | Asp | Gly | Gly | |
| 186 | 480 | | | | | 485 | | | | | 490 | | | | | 495 | |
| 188 | tgc | tct | ggg | ggc | gcc | tat | gac | atc | ata | ata | tgt | gat | gag | tgc | cac | tca | 3335 |
| 189 | Cys | Ser | Gly | Gly | Ala | Tyr | Asp | Ile | Ile | Ile | Cys | Asp | Glu | Cys | His | Ser | |
| 190 | | | | | 500 | | | | | | 505 | | | | 510 | | |
| 192 | act | gac | tcg | acc | act | atc | ctg | ggc | atc | ggc | aca | gtc | ctg | gac | caa | gcg | 3383 |
| 193 | Thr | Asp | Ser | Thr | Thr | Ile | Leu | Gly | Ile | Gly | Thr | Val | Leu | Asp | Gln | Ala | |
| 194 | | | | | 515 | | | | | 520 | | | | 525 | | | |
| 196 | gag | acg | gct | gga | gcg | cga | ctc | gtc | gtg | ctc | gcc | acc | gct | acg | cct | ccg | 3431 |
| 197 | Glu | Thr | Ala | Gly | Ala | Arg | Leu | Val | Val | Leu | Ala | Thr | Ala | Thr | Pro | Pro | |
| 198 | | | | | 530 | | | | | 535 | | | | 540 | | | |
| 200 | gga | tcg | gtc | acc | gtg | cca | cat | cca | aac | atc | gag | gag | gtg | gct | ctg | tcc | 3479 |
| 201 | Gly | Ser | Val | Thr | Val | Pro | His | Pro | Asn | Ile | Glu | Glu | Val | Ala | Leu | Ser | |
| 202 | | | | | 545 | | | | | | 550 | | | 555 | | | |
| 204 | agc | act | gga | gaa | atc | ccc | ttt | tat | ggc | aaa | gcc | atc | ccc | atc | gag | acc | 3527 |
| 205 | Ser | Thr | Gly | Glu | Ile | Pro | Phe | Tyr | Gly | Lys | Ala | Ile | Pro | Ile | Glu | Thr | |
| 206 | 560 | | | | | 565 | | | | | 570 | | | | | 575 | |
| 208 | atc | aag | ggg | ggg | agg | cac | ctc | att | ttc | tgc | cat | tcc | aag | aag | aaa | tgt | 3575 |
| 209 | Ile | Lys | Gly | Gly | Arg | His | Leu | Ile | Phe | Cys | His | Ser | Lys | Lys | Lys | Cys | |
| 210 | | | | | 580 | | | | | | 585 | | | | 590 | | |
| 212 | gat | gag | ctc | gcc | gcg | aag | ctg | tcc | ggc | ctc | gga | ctc | aat | gct | gta | gca | 3623 |
| 213 | Asp | Glu | Leu | Ala | Ala | Lys | Leu | Ser | Gly | Leu | Gly | Leu | Asn | Ala | Val | Ala | |
| 214 | | | | | 595 | | | | | 600 | | | | 605 | | | |
| 216 | tat | tac | cgg | ggc | ctt | gat | gta | tcc | gtc | ata | cca | act | agc | gga | gac | gtc | 3671 |
| 217 | Tyr | Tyr | Arg | Gly | Leu | Asp | Val | Ser | Val | Ile | Pro | Thr | Ser | Gly | Asp | Val | |
| 218 | | | | | 610 | | | | | 615 | | | | 620 | | | |
| 220 | att | gtc | gta | gca | acg | gac | gct | cta | atg | acg | ggc | ttt | acc | ggc | gat | ttc | 3719 |
| 221 | Ile | Val | Val | Ala | Thr | Asp | Ala | Leu | Met | Thr | Gly | Phe | Thr | Gly | Asp | Phe | |
| 222 | | | | | 625 | | | | | | 630 | | | 635 | | | |
| 224 | gac | tca | gtg | atc | gac | tgc | aat | aca | tgt | gtc | acc | cag | aca | gtc | gac | ttc | 3767 |
| 225 | Asp | Ser | Val | Ile | Asp | Cys | Asn | Thr | Cys | Val | Thr | Gln | Thr | Val | Asp | Phe | |
| 226 | 640 | | | | | 645 | | | | | 650 | | | | 655 | | |
| 228 | agc | ctg | gac | ccg | acc | ttc | acc | att | gag | acg | acc | acc | gtg | cca | caa | gac | 3815 |
| 229 | Ser | Leu | Asp | Pro | Thr | Phe | Thr | Ile | Glu | Thr | Thr | Val | Pro | Gln | Asp | | |
| 230 | | | | | 660 | | | | | | 665 | | | | 670 | | |
| 232 | gcg | gtg | tca | cgc | tcg | cag | cgg | cga | ggc | agg | act | ggt | agg | ggc | agg | atg | 3863 |
| 233 | Ala | Val | Ser | Arg | Ser | Gln | Arg | Arg | Gly | Arg | Thr | Gly | Arg | Gly | Arg | Met | |
| 234 | | | | | 675 | | | | | | 680 | | | 685 | | | |
| 236 | ggc | att | tac | agg | ttt | gtg | act | cca | gga | gaa | cgg | ccc | tcg | ggc | atg | ttc | 3911 |
| 237 | Gly | Ile | Tyr | Arg | Phe | Val | Thr | Pro | Gly | Glu | Arg | Pro | Ser | Gly | Met | Phe | |
| 238 | | | | | 690 | | | | | | 695 | | | 700 | | | |
| 240 | gat | tcc | tcg | gtt | ctg | tgc | gag | tgc | tat | gac | gcg | ggc | tgt | gct | tgg | tac | 3959 |
| 241 | Asp | Ser | Ser | Val | Leu | Cys | Glu | Cys | Tyr | Asp | Ala | Gly | Cys | Ala | Trp | Tyr | |
| 242 | | | | | 705 | | | | | | 710 | | | 715 | | | |
| 244 | gag | ctc | acg | ccc | gcc | gag | acc | tca | gtt | agg | ttg | cgg | gct | tac | cta | aac | 4007 |
| 245 | Glu | Leu | Thr | Pro | Ala | Glu | Thr | Ser | Val | Arg | Leu | Arg | Ala | Tyr | Leu | Asn | |
| 246 | 720 | | | | | 725 | | | | | 730 | | | | 735 | | |
| 248 | aca | cca | ggg | ttg | ccc | gtc | tgc | cag | gac | cat | ctg | gag | ttc | tgg | gag | agc | 4055 |
| 249 | Thr | Pro | Gly | Leu | Pro | Val | Cys | Gln | Asp | His | Leu | Glu | Phe | Trp | Glu | Ser | |

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| | | | | | | | |
|-----|---|-----|-----|------|-----|------|------|
| 250 | | 740 | | 745 | | 750 | |
| 252 | gtc ttt aca ggc ctc acc cac ata gac gcc cat ttc ttg tcc cag act | | | | | | 4103 |
| 253 | Val Phe Thr Gly Leu Thr His Ile Asp Ala His Phe Leu Ser Gln Thr | | | | | | |
| 254 | | 755 | | 760 | | 765 | |
| 256 | aag cag gca gga gac aac ttc ccc tac ctg gta gca tac cag gct acg | | | | | | 4151 |
| 257 | Lys Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr | | | | | | |
| 258 | | 770 | | 775 | | 780 | |
| 260 | gtg tgc gcc agg gct cag gct cca cct cca tcg tgg gac caa atg tgg | | | | | | 4199 |
| 261 | Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp | | | | | | |
| 262 | | 785 | | 790 | | 795 | |
| 264 | aag tgt ctc ata cgg cta aag cct acg ctg cac ggg cca acg ccc ctg | | | | | | 4247 |
| 265 | Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu | | | | | | |
| 266 | 800 | | 805 | | 810 | | 815 |
| 268 | ctg tat agg ctg gga gcc gtt caa aac gag gtt act acc aca cac ccc | | | | | | 4295 |
| 269 | Leu Tyr Arg Leu Gly Ala Val Gln Asn Glu Val Thr Thr Thr His Pro | | | | | | |
| 270 | | 820 | | 825 | | 830 | |
| 272 | ata acc aaa tac atc atg gca tgc atg tcg gct gac ctg gag gtc gtc | | | | | | 4343 |
| 273 | Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala Asp Leu Glu Val Val | | | | | | |
| 274 | | 835 | | 840 | | 845 | |
| 276 | acg agc acc tgg gtg ctg gta ggc gga gtc cta gca gct ctg gcc gcg | | | | | | 4391 |
| 277 | Thr Ser Thr Trp Val Leu Val Gly Gly Val Leu Ala Ala Leu Ala Ala | | | | | | |
| 278 | | 850 | | 855 | | 860 | |
| 280 | tat tgc ctg aca aca ggc agc gtg gtc att gtg ggc agg atc atc ttg | | | | | | 4439 |
| 281 | Tyr Cys Leu Thr Thr Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu | | | | | | |
| 282 | | 865 | | 870 | | 875 | |
| 284 | tcc gga aag ccg gcc atc att ccc gac agg gaa gtc ctt tac ccg gag | | | | | | 4487 |
| 285 | Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu Val Leu Tyr Arg Glu | | | | | | |
| 286 | 880 | | 885 | | 890 | | 895 |
| 288 | ttc gat gag atg gaa gag tgc gcc tca cac ctc cct tac atc gaa cag | | | | | | 4535 |
| 289 | Phe Asp Glu Met Glu Glu Cys Ala Ser His Leu Pro Tyr Ile Glu Gln | | | | | | |
| 290 | | 900 | | 905 | | 910 | |
| 292 | gga atg cag ctc gcc gaa caa ttc aaa cag aag gca atc ggg ttg ctg | | | | | | 4583 |
| 293 | Gly Met Gln Leu Ala Glu Gln Phe Lys Gln Lys Ala Ile Gly Leu Leu | | | | | | |
| 294 | | 915 | | 920 | | 925 | |
| 296 | caa aca gcc acc aag caa gcg gag gct gct gct ccc gtg gtg gaa tcc | | | | | | 4631 |
| 297 | Gln Thr Ala Thr Lys Gln Ala Glu Ala Ala Ala Pro Val Val Glu Ser | | | | | | |
| 298 | | 930 | | 935 | | 940 | |
| 300 | aag tgg ccg acc ctc gaa gcc ttc tgg gcg aag cat atg tgg aat ttc | | | | | | 4679 |
| 301 | Lys Trp Arg Thr Leu Glu Ala Phe Trp Ala Lys His Met Trp Asn Phe | | | | | | |
| 302 | | 945 | | 950 | | 955 | |
| 304 | atc agc ggg ata caa tat tta gca ggc ttg tcc act ctg cct ggc aac | | | | | | 4727 |
| 305 | Ile Ser Gly Ile Gln Tyr Leu Ala Gly Leu Ser Thr Leu Pro Gly Asn | | | | | | |
| 306 | 960 | | 965 | | 970 | | 975 |
| 308 | ccc gcg ata gca tca ctg atg gca ttc aca gcc tct atc acc agc ccg | | | | | | 4775 |
| 309 | Pro Ala Ile Ala Ser Leu Met Ala Phe Thr Ala Ser Ile Thr Ser Pro | | | | | | |
| 310 | | 980 | | 985 | | 990 | |
| 312 | ctc acc acc caa cat acc ctc ctg ttt aac atc ctg ggg gga tgg gtg | | | | | | 4823 |
| 313 | Leu Thr Thr Gln His Thr Leu Leu Phe Asn Ile Leu Gly Gly Trp Val | | | | | | |
| 314 | | 995 | | 1000 | | 1005 | |

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 882,1489

Seq#:3; Xaa Pos. 882,1489

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L:634 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:638 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:890 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:4489
M:341 Repeated in SeqNo=2
L:1240 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:1351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:880
M:341 Repeated in SeqNo=3